

Remarks

The instant Office Action dated April 30, 2009 notes the following rejections: claims 1-20 stand rejected under 35 U.S.C. § 112(1); claims 1-5 and 7-20 stand rejected under 35 U.S.C. § 102(b) over Johnsgard (U.S. Patent No. 6,200,634); claim 6 stands rejected under 35 U.S.C. § 103(a) over the ‘634 reference; and claims 3, 6 and 12-18 stand rejected under 35 U.S.C. § 103(a) over the ‘634 reference in view of Schietinger (U.S. Patent Pub. 2003/0036877). Applicant traverses all of the rejections and, unless explicitly stated by the Applicant, does not acquiesce to any objection, rejection or averment made in the Office Action.

Applicant respectfully traverses the § 112(1) rejections of claims 1-20 because these claims are fully supported by Applicant’s disclosure in compliance with the written description requirement. For example, Applicant previously identified that example support for the newly presented claims could be found, for example, in paragraphs 0031-0034 of the published version of Applicant’s specification. To facilitate prosecution, Applicant provides herewith a detailed explanation regarding examples of where support for aspects of the claimed invention directed to maintaining the temperature of the wafer by keeping the electrical signal constant during a deposition cycle without determining the temperature of the wafer from the electrical signal can be found. For example, Applicant discloses that the electrical signal is kept constant during the deposition cycle to maintain a constant wafer temperature and the “only requirement is that the optical signal is kept constant from the start of deposition.” *See* paragraph 0034 of the published version of Applicant’s specification. Applicant goes on to state that the emissivity of the backside of the wafer does not play a role in contrast to prior art embodiments that consider “true wafer temperature measurements for which the emissivity of the wafer has to be known.” *See, e.g.,* paragraphs 0032 and 0035 of the published version of Applicant’s specification. Applicant further discusses the process of maintaining the temperature of the wafer by keeping the electrical signal generated by transducer 40 constant during a deposition cycle in connection with Figure 3b and this process is not discussed as including determining the temperature of the wafer from the electrical signal. *See, e.g.,* paragraph 0041 of the published version of Applicant’s specification.

As such, Applicant submits that Applicant's disclosure contains express support for the above discussed aspects of the claimed invention. Should the Examiner disagree, Applicant further submits that Applicant's disclosure contains implicit support for the above discussed aspects by discussing the process of maintaining the temperature of the wafer by keeping the generated electrical signal constant during the relevant deposition cycle. This process is expressly disclosed without any teaching, hint or suggestion that this process includes determining the temperature of the wafer from the electrical signal. According to M.P.E.P. § 2163, claim limitations can be supported expressly, implicitly, or inherently ("each claim limitation must be expressly, implicitly, or inherently supported in the originally filed disclosure"). Accordingly, the identified limitations of claims 1 and 12 are fully supported by Applicant's disclosure in compliance with the written description requirement and the rejection must be withdrawn. Applicant notes that should the rejection be maintained, the burden is on the Examiner to explain why the skilled artisan would not recognize in Applicant's disclosure the above discussed aspects of the claimed invention. *See, e.g.*, M.P.E.P. § 2163:

If applicant amends the claims and points out where and/or how the originally filed disclosure supports the amendment(s), and the examiner finds that the disclosure does not reasonably convey that the inventor had possession of the subject matter of the amendment at the time of the filing of the application, the examiner has the initial burden of presenting evidence or reasoning to explain why persons skilled in the art would not recognize in the disclosure a description of the invention defined by the claims.

As such, simply repeating the improper conclusion that "The newly added limitation without determining the temperature of the wafer from the electrical signal ... are not taught in the specification or drawings" would be insufficient to maintain the rejection, because such a conclusion is not and could not be accompanied by a rationale statement regarding how a skilled artisan would reach such a conclusion.

Regarding the rejection of claim 19, Applicant submits that support for aspects of the claimed invention directed to a pyrometer configured to measure a temperature of the susceptor, with the pyrometer not being part of the optical signal measurer that generates the electrical signal can also be found throughout Applicant's disclosure. For example, Applicant discusses (in connection with Figure 3b) that the electrical signal is generated by transducer 40 and the transducer is not discussed as including a pyrometer that determines the temperature of the susceptor or the temperature of the wafer. *See, e.g.*,

paragraph 0041 of the published version of Applicant's specification. Applicant's disclosure further includes various examples of a pyrometer being used to determine the temperature of a susceptor or the temperature of a wafer. *See, e.g.*, paragraphs 0004, 0029, 0030 and 0032 of the published version of Applicant's specification. Thus, the above discussed aspects of claim 19 are fully supported by Applicant's disclosure in compliance with the written description requirement.

In view of the above, the § 112(1) rejections of claims 1-20 are improper and Applicant requests that they be withdrawn.

Applicant respectfully traverses the § 102(b) and § 103(a) rejections because the '634 reference does not correspond to aspects of the claimed invention directed to keeping the electrical signal constant during a deposition cycle without determining the temperature of the wafer. The prior art rejections presented in the instant Office Action fail to make any mention of such aspects of the claimed invention, which are not taught by the '634 reference as was discussed in detail in the Response dated February 19, 2009 (herby incorporated by reference in its entirety). As such, the rejection necessarily fails and must be withdrawn. It is unclear to Applicant whether the Office Action intentionally failed to address these aspects of the claimed invention in view of the § 112(1) rejections discussed above; however, such a course of action is improper. *See, e.g.*, M.P.E.P. § 2163:

The above only describes how to determine whether the written description requirement of 35 U.S.C. 112, para. 1, is satisfied. Regardless of the outcome of that determination, Office personnel must complete the patentability determination under all the relevant statutory provisions of title 35 of the U.S. Code. Once Office personnel have concluded analysis of the claimed invention under all the statutory provisions, including 35 U.S.C. 101, 112, 102, and 103, they should review all the proposed rejections and their bases to confirm their correctness. Only then should any rejection be imposed in an Office action.

The following discussion particularly addresses the lack of correspondence between the '634 reference and the claimed invention.

The '634 reference does not teach keeping, without determining the temperature of wafer 502, any electric signal generated by optical pyrometer 534 constant during a deposition cycle, as in the claimed invention. *See, e.g.*, Figure 5 and Col. 9:20-50, which discusses how optical pyrometer 534 and computer system 536 determine the temperature of the wafer to control the process. Thus, the '634 reference does not correspond to the claimed invention. Applicant notes that the Office Action does not allege that the '877

reference addresses the above discussed deficiencies of the '634 reference. As such, the Office Action's proposed combination does not correspond to the claimed invention.

In view of the above, the § 102(b) and § 103(a) rejections are improper and Applicant requests that they be withdrawn.

In view of the remarks above, Applicant believes that each of the rejections has been overcome and the application is in condition for allowance. Should there be any remaining issues that could be readily addressed over the telephone, the Examiner is asked to contact the agent overseeing the application file, Peter Zawilski, of NXP Corporation at (408) 474-9063.

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